

### **REMARKS**

Reconsideration and allowance in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 23-44 remain pending in the application. Claims 23 and 34 have been amended to better define the claimed subject matter.

#### **Claim objections**

Claims 23 and 34 are objected to because of the noted informalities. In response, “with a view to being” recited in claim 23 has been replaced with “for being”. Claim 34 has been amended according to the Examiner’s suggestion. Thus, withdrawal of the objections is respectfully requested.

#### **Claim rejections under 35 U.S.C. 103**

Claim 23 is rejected under 35 USC 103(a) as being unpatentable over Blackwell et al (US Publication No. 2002/0009057) in view of Smith (The Scientist and Engineer’s Guide to Digital Signal Processing). Applicant respectfully traverses this rejection for the reasons discussed below.

Claim 23 is directed to “a method for processing information output by a primary flight equipment mounted on board an aircraft, in a form sampled at a first rate for being delivered after processing, to a flight conduct system of the aircraft, in a form sampled at a second rate lower than the first rate”, which is contrary to what is usual: “the samples of information output by an item of primary flight equipment are submitted to an anti-noise digital filtering carried out at the first sampling rate.”

The citation of Blackwell is not seen as resulting in a tenable rejection inasmuch as this document does not relate to a method for processing information output by redundant primary flight equipment. Blackwell instead, relates to a method and an apparatus for echo cancellation and never discloses or suggests the use of a digital noise filter carried out at a first sampling rate in a primary flight equipment mounted on board an aircraft.

Specifically, Blackwell discloses a echo cancellation method in which a transmitter processes a first signal characterized by a first baud rate  $f_A$  and a receiver receives a second signal B characterized by a second baud rate  $f_B$  (paragraph [0032]). Blackwell discloses the use of an analog filter (filter 314, Figure2). There is no indication that suggests this filter is a noise filter.

Smith teaches that “digital filters have better performance in many areas” (Figure 21-1, page 345). But Smith fails to disclose or suggest the use of a digital noise filter carried out at a first sampling rate in primary flight equipment mounted on board an aircraft as claimed.

Accordingly, it is submitted that it would not be obvious for one of ordinary skill in the art of processing information output by redundant primary flight equipment, to combine the echo cancellation apparatus of Blackwell and the teachings of Smith because of the difference of technical domains.

Moreover, combining these two teachings, does not allow obtaining the claimed method recited in claim 23 of the present application using an anti-noise digital filtering carried out at a first sampling rate.

Accordingly, claim 23 should be patentable over the art and this rejection should be withdrawn.

Independent claim 34 is rejected under 35 USC 103(a) as being unpatentable over Blackwell in view of Smith and further in view of Gyde et al (EP 0913746). Applicant respectfully traverses this rejection for the reasons discussed below.

Claim 34 is directed to “a device with redundant architecture with two parallel lines for the processing of signals from primary flight equipments mounted on board an aircraft, said signals being available at a first rate, in a sampled form and as several versions and intended to be delivered after processing, still as several versions, to a flight conduct system of the aircraft, in a form sampled at a second rate lower than the first rate”, which is contrary what is usual: “it comprises, at the head of each line, following a multiple buffer memory, a multiple anti-noise

digital filter filtering in parallel the various available versions of signals from primary flight equipments and operating, like the multiple buffer memory at the first sampling rate.”

An embodiment according to the present invention is present where *primary flight equipments are* inertial platforms INS. Specifically, as illustrated in paragraphs [0035]-[0036] of the specification of the published application, each double anti-noise filter 70 or 71 filters in parallel the two series of samples delivered by the two inertial platforms INS 10, 11 at the rate of these series, without subsampling but under the control of its own clock that is not synchronized with either of the clocks of the inertial platforms INS 10, 11.

The double buffer memories 20' and 21' working at the higher rate of the data originating from the inertial platforms INS 10, 11, no longer serve for the subsampling but only for the noting of absences of synchronism between the clocks at the same frequency of the inertial platforms INS 10, 11 and of the double anti-noise filters 70, 71.

The applied art of Gyde discloses a redundant sensor monitoring system which hacks sensor miscomparisons and automatically reverts to valid sensors as required. The Gyde system include au unit control (10, Figures 1, 2a, 2b) that includes “means for comparing equivalent parameters, dynamically debouncing the raw miscompare data, and implementing the autoreversion logic” (Gyde, [0032]). Also, Gyde discloses that “equivalent parameters are input into filter.”(Gyde, [0039]). These Gyde filters are “conventional low pass filters to eliminate noise” (Gyde, [0039]).

According to Figure 3 of Gyde, the sensor invalidation system does not include redundant parts. It should be seen as a single processing line. Figures 2a and 2b of Gyde illustrate two embodiments of the sensor invalidation system. Even if these two embodiments would be embedded in the aircraft, they cannot be seen as redundant processing line because they are not interchangeable. The Gyde invalidation system, being similar to a single processing line, cannot deal with the problem of reducing the frequency of untimely disconnections of automatic controls of a flight conduct system that are due to artifacts of lines for processing primary flight information doubled or tripled so as to enhance safety. Thus, one of ordinary skill in the art of

processing information output by redundant primary flight equipment would not use the teaching of Gyde to solve this problem.

Accordingly, it is submitted that it would not be obvious for one of ordinary skill in the art of processing information output by redundant primary flight equipment, to combine the echo cancellation apparatus of Blackwell et al, the teachings of Smith and the teachings of Gyde.

Moreover, combining these three teachings, does not allow obtaining the claimed method recited in claim 34 of the present application using an anti-noise digital filtering carried out at a first sampling rate and comprising a multiple buffer memory operating at the first sampling rate.

Accordingly, claim 23 should be patentable over the art and this rejection should be withdrawn.

Claims 25, 26, 36, and 37 are rejected under 35 USC 103(a) as being unpatentable over Blackwell in view of Smith and Gyde as applied to claims 23 and 34 above, and further in view of Lin et al (US Patent No. 6,671,342). Claims 27-29 and 38-40 are rejected under 35 USC 103(a) as being unpatentable over Blackwell in view of Smith and Gyde as applied to claims 23 and 34 above, and further in view of Lesurf (Filters Order, order!). Claims 30 and 41 are rejected under 35 USC 103(a) as being unpatentable over Blackwell in view of Smith, Gyde, Lin and Lesurf as applied to claims 23, 26, 29, 34, 37, and 40 above. Claims 31 and 42 are rejected under 35 USC 103(a) as being unpatentable over Blackwell in view of Smith, and Gyde e, as applied to claims 23 and 34 above, and further in view of Detlefsen (US Publication No. 2003/0231083). Claims 33 and 44 are rejected under 35 USC 103(a) as being unpatentable over Blackwell in view of Smith, and Gyde as applied to claims 23 and 34 above, and further in view of Kiss et al (US Patent No. 6,460,803).

The rejections of the dependent claims above are noted. Applicant respectfully submits that the applied art of Lin, Lesurf, Detlefsen and Kiss do not cure the deficiency of Blackwell, Smith and Gyde. The dependent claims depend upon claims 23 and 34, respectively and should

be allowable for the reasons advanced with respect to claims 23 and 34. Thus, these rejections should be withdrawn.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited.

Early issuance of a Notice of Allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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